

AMENDMENTS TO THE DRAWINGS:

Enclosed herewith is a replacement drawing sheet depicting FIG. 1, which has been amended to correct a typographical error in block 130.

REMARKS

Claims 1-24 are pending. Portions of the specification and the drawings have been amended to correct minor typographical errors. Applicants respectfully request reconsideration of the application in response to the final Office Action.

Claim Rejections under 35 U.S.C. §103(a)

Claims 1-3, 6-13 and 16-24

Claims 1-3, 6-13 and 16-24 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over "The Virtual Reality Modeling Language Specification Version 2.0" to Bell et al. ("Bell") in view of U.S. Patent Application Publication No. 2002/0026642 to Augenbraun *et al.* ("Augenbraun") and further in view of U.S. Patent No. 6,130,898 to Kostreski *et al.* ("Kostreski"). Applicants traverse this rejection for at least the following reasons.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (See, MPEP §2143.03, citing *In re Royka*, 490 F.2d 981 (CCPA 1974)). Applicants submit that no combination of Bell, Augenbraun and Kostreski teaches or suggests "the terminal forming an upstream channel message if a user request of predetermined processing of a predetermined object occurs in a scene transmitted from the server to the terminal through the downstream channel, and transmitting the message to the server through the upstream channel, wherein the upstream channel message identifies a corresponding node in the scene in which the user request occurred," as recited in claim 1 (emphasis added).

The Office indicates that Bell and Augenbraun do not teach or suggest "wherein the upstream channel message identifies a corresponding node in the scene in which the user request occurred." (See, final Office action at page 4). Moreover, Applicants respectfully disagree with the Office that Kostreski supplies the teachings missing from Bell and Augenbraun.

Kostreski describes combining a public wireless packet data network with a broadband digital broadcast network to provide interactivity with a user. (Kostreski at Abstract). For example, the user can order a pay-per-view event via a digital entertainment terminal (DET) 100 connected to an associated television set 75. (Kostreski at col. 25, lines 52-56 and col. 20, lines 28-29). The DET 100 supplies a purchase request message to a transport interface module (TIM) controller 210, which instructs a RF modem to initiate a wireless packet data call through the public wireless packet data network to a gateway 31. (Kostreski at col. 25, lines 56-61). The gateway 31 and the DET 100 then exchange a series of messages to validate the identity of the terminal and authorization for the user of the terminal to purchase pay-per-view events. (Kostreski at col. 25, lines 61-64). If the purchase is authorized, the gateway 31 and the DET 100 exchange messages to identify the event, which may be the program currently selected by the user, or the gateway 31 may transmit back to the DET 100 text or graphics information soliciting an event selection. (Kostreski at col. 25, line 65 to col. 26, line 2).

Contrary to the Office's assertion, Applicants submit that a terminal exchanging messages with a gateway to validate the identity of the terminal and to identify a pay-per-view event selected by a user, does not teach or suggest a terminal forming and transmitting to a server an upstream channel message that

identifies a corresponding node in the scene in which the user request occurred.

(See, final Office action at pages 4-5).

For example, as shown in FIGS. 6A-6D of the instant application, a user can watch a display screen and, using an input device, such as a mouse, select an object in which an error occurred in a displayed MPEG-4 BIFS scene. (Specification at page 10, lines 13-18). To retransmit to the user only the node corresponding to the object selected by the user, the terminal forms an upstream message that identifies, using a node identifier (e.g., "NodeID"), the corresponding node in the scene in which the user request occurred. (Specification at page 10, lines 18-20). Using the NodeID of the selected object, a server can then find the corresponding node in the hierarchical structure of the MPEG-4 BIFS scene and retransmit the corresponding node and, if necessary, information on all nodes of lower levels. (Specification at page 10, lines 25-29). In this way, information volume to be transmitted for restoration from the error can be minimized. (Specification at page 11, lines 8-9).

The Office indicates that, in Kostreski, each message exchanged to authorize purchase of a pay-per-view event "contains identification of the original requestor along with other information." (See, final Office action at page 4). Applicants disagree that identification of the original requestor (i.e., the terminal forwarding the purchase request) and of "other information" (i.e., the pay-per-view event selected by the user for purchase) teaches or suggests identification of a corresponding node in a scene in which a user request occurred. Nowhere does Kostreski describe processing of three-dimensional scenes generated based on a binary format for describing scene nodes.

Further, contrary to the Office's assertion, Applicants submit that there would be no motivation to incorporate the teachings of Kostreski (i.e., a terminal exchanging messages with a gateway to validate the identity of the terminal and to identify a pay-per-view event selected by a user) with those of Bell and Augenbraun "to make the system more efficient." (See, final Office action at page 4). Nowhere does Kostreski describe that the exchange of messages between the terminal and the gateway to validate the identity of the terminal and to identify the pay-per-view event selected by a user yields system efficiencies, no less a reduction in "the volume of information to be transmitted for restoration." (See, final Office action at page 5).

Thus, because no combination of Bell, Augenbraun and Kostreski teaches or suggests all the claim limitations of independent claim 1, Applicants submit that claim 1 and, for analogous reasons, independent claim 11, are patentable over Bell in view of Augenbraun and Kostreski. Similarly, for reasons analogous to those presented for claims 1 and 11, Applicants submit that independent claims 21 and 23 are also patentable over Bell in view of Augenbraun and Kostreski. At a minimum, no combination of Bell, Augenbraun and Kostreski teaches or suggests "the upstream channel message identifies a corresponding node in a three-dimensional scene in which the user request occurred," as recited in claims 21 and 23.

Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. §103(a) of claims 1, 11, 21 and 23, and of claims 2, 3, 6-10, 12, 13, 16-20, 22 and 24, which depend therefrom, be withdrawn.

Claims 4, 5, 14 and 15

Dependent claims 4, 5, 14 and 15 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bell in view of Augenbraun and further in view of U.S. Patent No. 6,654,761 to Tenev *et al.* ("Tenev"). Applicants traverse this rejection for at least the following reasons.

For at least the same reasons presented for independent claims 1 and 11, Applicants submit that claims 4, 5, 14 and 15, which depend therefrom, are patentable over Bell in view of Augenbraun. In particular, the Office indicates that Bell and Augenbraun do not teach or suggest "wherein the upstream channel message identifies a corresponding node in the scene in which the user request occurred" as recited in parent claims 1 and 11. (See, final Office action at page 4).

Further, Applicants submit that Tenev does not teach or suggest "determining whether or not the defined node is reusable in the scene, by the presence of a node identifier," as recited in claim 4 (emphasis added). As described in the specification of the instant application, in one embodiment, a NodeID presence determiner 412 can determine whether or not a defined node is a reusable node in the scene by the presence of a node identifier (e.g., "NodeID"). (Specification at page 8, lines 8-9 and FIG. 4). For example, in a scene transmitted from a server 300 to a terminal 310, "a proper identifier, such as a NodeID, can be assigned to and used in a node for each object, so as to provide reusability, that is, a function capable of responding to a user request." (Specification at page 8, lines 12-14 and FIG. 3, emphasis added). If a NodeID for a node in the scene is not assigned, then a NodeID generator 414 can find a node for which a NodeID is defined, among the nodes immediately above the

node for which a NodeID is not assigned. (Specification at page 8, lines 19-23 and FIG. 4).

Tenev, on the other hand, describes that a list of node IDs 232 can be created and maintained by memory management routines 226 to hold information about navigation history. (Tenev at col. 8, lines 2-5 and FIG. 6). Tenev teaches that the list of node IDs 232 can be managed so that the position of a node's entry in the list 232 indicates the ranking of the node in terms of how recently each node was handled. (Tenev at col. 9, lines 2-19). For example, in FIG. 6, Tenev shows an implementation of a list of node IDs 232 as a linked list of N entries 270, 272 through 274, where each entry includes a node ID field 280, 282 through 284. (Tenev at col. 9, lines 2-7). Tenev teaches that the node ID field simply indicates the ID of a node. (Tenev at col. 9, line 8). Nowhere does Tenev teach or suggest, however, determining whether or not a defined node is reusable in a three-dimensional scene generated based on a binary format by the presence of a node identifier.

Thus, because no combination of Bell, Augenbraun and Tenev teaches or suggests all the claim limitations of claim 4, Applicants submit that claim 4 and claim 5, which depends from claim 4, are patentable over Bell in view of Augenbraun and Tenev. Similarly, for reasons analogous to those presented for claims 4 and 5, Applicants submit that claims 14 and 15 are also patentable over Bell in view of Augenbraun and Tenev. At a minimum, no combination of Bell, Augenbraun and Tenev teaches or suggests "a node identifier presence determiner for determining whether or not the defined node is reusable in the scene, by the presence of a node identifier," as recited in claim 14.

Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. §103(a) of claims 4, 5, 14 and 15 be withdrawn.

Conclusion

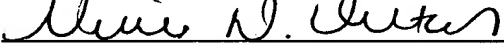
It is believed that no additional fees are required to accompany this Amendment. However, if additional fees are required for any reason, please charge Deposit Account No. 02-4800 the necessary amount.

In the event that there are any questions concerning this paper, or the application in general, the Examiner is respectfully urged to telephone Applicants' undersigned representative so that prosecution of the application may be expedited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: March 27, 2007

By: 
Nicole D. Dretar
Registration No. 54076

P.O. Box 1404
Alexandria, VA 22313-1404
703.836.6620